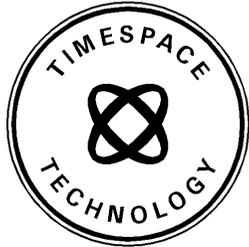


Guarantee



Timespace Technology Guarantee

TIMESPACE TECHNOLOGY LTD (TIMESPACE) guarantees this product to be free of defects in material and workmanship for a period of 1 year from the date of end-user purchase.

During the warranty period TIMESPACE shall, at its sole and absolute option, without charge for labour or parts, either repair or replace any product that proves to be defective on inspection by TIMESPACE or, outside the UK and EIRE, the authorised service representative.

In the event of a claim under guarantee:

(1) UK / EIRE

Contact TIMESPACE at the location below with a description of the fault and the product serial number. After receiving a return authorization number the product must be sent to TIMESPACE, carefully packed (if possible in original packaging), carriage prepaid, insured and with a copy of the original invoice / receipt issued on purchase. TIMESPACE reserves the right to update any unit returned for repair. TIMESPACE reserves the right to change or improve the design of the product at any time without prior notice.

(2) Outside UK / EIRE

Follow the instructions of the local distributor.

This guarantee does not cover claims for damage due to abuse, neglect, alteration or attempted repair by unauthorised personnel and is limited to failures arising during normal indoor use that are due to defects in material or workmanship in the product.

In no event will TIMESPACE be liable for incidental, consequential or other damages resulting from the breach of any express or implied guarantee of this product.

This guarantee does not affect the consumer's statutory rights under applicable national legislation in force, nor the consumer's rights against the seller arising from their sales / purchase contract. In the absence of applicable national legislation, this guarantee will be the consumer's sole and exclusive remedy.



Timespace Technology Ltd, 89 High St, Huntingdon PE29 3DP, England
Tel: +44 (0) 1480 414147, Fax: +44 (0) 1480 414146, Email: mail@tspace.co.uk

OmniBase

Digital Video Recorder Instruction Manual



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V2.36a

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Technical Support

Please contact local distributor for sales / general enquiries.

For Technical Support contact:

Timespace Technology Ltd.
89 High Street
Huntingdon
PE29 3DP
England

Tel: +44 (0)1480 414147
Fax: +44 (0)1480 414146
Email: mail@tspace.co.uk
Web: www.tspace.co.uk

Please be ready to provide product serial number. To aid the phone support team please ensure that you can access the product during instruction.

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EMC Conformity

EC Declaration of Conformity	
We	Timespace Technology Ltd. The Old School Fen Drayton Cambridgeshire CB4 5SJ U.K.
declare that the	
OmniBase 8 Digital Video Recorder	
meets the intent of the European Council Directive 89/336/EEC referred to as the Electromagnetic Compatibility (EMC) Directive. Compliance was demonstrated by conformance to the following standards which have been listed in the <i>Official Journal of the European Communities</i> .	
EMC	
Emissions: EN50081-1(1992) EMC Generic Emission standard (Light Industrial) referring to:	
	a) EN55022(1995) Conducted, Class B b) EN55022(1995) Radiated, Class B
Immunity: EN50082-1(1992) EMC Generic Immunity standard (Light Industrial) referring to:	
	a) IEC801-3(1984) RF field b) EN60801-2(1993) Electrostatic Discharge c) IEC801-4(1988) Fast Transient
 Dr ROBERT HEYLEN TECHNICAL DIRECTOR 27th October 1998	

Safety

The OmniBase has been designed to meet the requirements of BS EN60950 (Safety Requirements of Information Technology Equipment).

The OmniBase has been designed to be powered from an external power source which complies to the Low Voltage Directive (73/23/EEC)

The OmniBase has been designed for indoor use in the temperature range 5°C to 40°C, 20% to 80% RH (non condensing).

Do not wet the product when cleaning.

This product contains a lithium battery. Do not recharge, open, heat or dispose of in fire. Dispose of according to local regulations.

High temperatures are generated inside the OmniBase, and in any installation it is important that the ventilation holes in the rear of the case are not obstructed.

The use of any power source, other than that supplied with the OmniBase, may cause damage to the product, and will invalidate the warranty.

Year 2000 Conformity

The OmniBase is year 2000 compliant according to the BSI - DISC specification. Please refer to document DISC PD2000-1 available from the British Standards Institute.

Installation

Introduction

The OmniBase is a digital video surveillance recorder for use in security and surveillance applications in locations such as offices, retail outlets, factories and car parks. Due to its compact size the product can be used in mobile applications including police operations, truck and container monitoring and civil and military marine and aviation installations.

The OmniBase has four component parts namely monitor, recorder, multiplexer and video switcher integrated into one compact unit. The OmniBase differs from conventional Timelapse VCR recording systems in that it records digitally onto hard disk. Once the hard disk is fully recorded it automatically overwrites in a loop, deleting the oldest images first. The unit can be configured to record for standard 12 / 24 / 48 / 72 / 168 / 480 / 960 hour periods or programmed to record at a fixed update rate e.g. 4 images per second.

The OmniBase uses the industry standard JPEG image compression to save hard disk space. Essentially the image is divided into blocks and each block is analysed and compressed. Blocks with no fine detail compress well (such as areas of sky or smooth walls) whereas blocks with fine detail take up more space.

The OmniBase also includes a motion format mode close to the industry MPEG standard. Essentially only areas of the image that change from picture to picture are stored. This is sometimes referred to as conditional refresh. If there is no motion - for example the camera is viewing an empty room, virtually no disk space is used up during recording.

The OmniBase will power up in the same recording state as it was in, on power down. This means that in the event of a power cut, the unit will resume recording when power is resupplied if it had been recording prior to the power failure.

All OmniBase recordings are watermarked. If they are copied with no modification onto other recording media the watermark remains intact. If the file is corrupted, modified, or tampered with in any way the watermark is destroyed. The watermark type is known as a 'fragile watermark' as it is destroyed by any modification of the archive file. The integrity of the watermark can be checked using a watermark checking program and a valid watermark indicates that the recorded file has not been altered in any way during a transmission or copy process.

The 24-hour clock is used for all times and settings.

For language options see the RESET SYSTEM menu.

Optional Peripherals

PCLink (T300)

For small-scale storage. A library of images can be down-loaded from the OmniBase via a link cable, and replayed on a PC. Includes T312

USB Interface Kit (T309)

Allows downloading of OmniBase recordings to 2.5" IDE hard disk cartridge. The recordings are then accessed via the USB connector on PC/Notebook. Includes T300, T312.

Hard Disk Cartridge (T401-series)

Available in various capacity sizes.

Serial Link Cable (T312)

For software updates via email.

Connections

Video Inputs	8 x BNC camera inputs
Video Outputs	1 x BNC monitor output 1 x BNC live video switcher
Alarm Inputs	8 (1 per camera) relay inputs
Alarm Output	1 x relay output
Serial A (In/Out)	RS232 Slow serial
B (In/Out)	RS422 Fast serial

General

Menu	On-screen menus with context sensitive Help facility
Menu Language	English
Password	4 user-definable levels
Timer	Monday - Sunday programmable
Dimensions (mm)	206 (H) x 113 (W) x 70 (D)
Dimensions Packed (mm)	270 (H) x 210 (W) x 105 (D)
Weight	0.97 kg
Weight Packed	1.85 kg
Power	7.5V-12V DC, 2A PSU (100V - 240V)
Power Consumption	1.85A Recording, LCD monitor enabled 1.42A Not recording, LCD monitor enabled, 1.20A Recording, LCD monitor disabled, 0.79A Not recording, LCD monitor disabled
Operating Range	+5°C to +40°C, 20% to 80% RH (non- condensing)
Storage Range	-40°C to +65°C
EMC	EN50081-1 and EN50082-1 (CE)
Environmental	Indoor use at altitudes up to 2,000 m
Case Material	Impact resistant polystyrene (UL94MB)
Protection	IP20
Warranty	12 months
Supplied Accessories	PSU, IEC mains lead, instruction manual

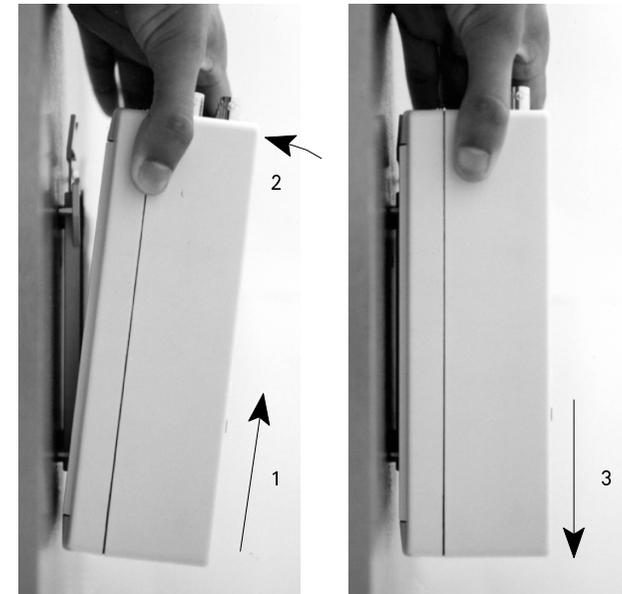
Alarm connections - 15 way 'D' type connector

Pins 1 - 8	Alarm inputs 1 - 8
Pins 11-13	Ground
Pins 9, 10	Relay output 1 (currently used as alarm out)
Pins 14, 15	Relay output 2 (currently unused)

Timespace Technology are constantly updating and improving products and reserve the right to alter specifications at any time without notice.

Attaching the Unit to the Mounting Clip

First fix the mounting clip provided with the OmniBase unit to the wall or enclosure where it is to be located. Mounting clips are also provided ready - attached to the table stand. The following steps indicate how to attach the OmniBase unit to the mounting clip.



- 1 Pull the unit up, ensuring the bottom tabs of the clip fit into the two slots on the back of the unit.
- 2 Push the unit back, onto the clip.
- 3 Push the unit down, and it will click into place.



To release the unit from the clip, hold down the lever at the top of the clip (see picture above), and reverse the steps above - pull the unit up, then pull the unit forward, away from the clip, and push the unit down.

Connecting Cameras

Cameras are connected to the Video In sockets of the OmniBase using a standard 75 Ohms impedance coaxial cable, with BNC connectors. See camera instructions for maximum cable length.

Connecting Power Supply

Connect the power supply provided with the unit, to the OmniBase socket marked 7.5-12V DC 2A.

Appendix

OmniBase Specification

Digital Video Recorder

Hard Disk	2.5" IDE
Format	JPEG compression
Record Times	12, 24, 48, 72, 168, 480, 960 hour
or	
Record Intervals	MAX RATE, 1/5, 1/3, 1/2, 1, 2, 5, 10, 20, 30, 60 secs
Record Resolution	High Res. - Perfect reproduction (50kB / full image) Medium Res. - Virtually no loss (30kB / full image) Low Res. - Slight blocking (20kB / full image)
Resolution TVL	468
Record Format	Full picture update or conditional refresh
Max. Record Rate	5 Images / second on 1 camera
Pixels	624 (H) x 280 (V) PAL , 624 (H) x 240 (V) NTSC
Image Search	Time & date/alarm/oldest/newest
Alarm Recordings	Permanent write-protected
Playback	Play; Replay; and Rapsidscan in 1/5/10 /20/60 minute increments
Function Keys	Record, Rewind, Fast Forward Play, Pause and Frame Advance

Video Multiplexer

Format	PAL or NTSC models
System	Duplex (review whilst recording)
Inputs	8 camera
Camera Line Freq.	15,625 Hz \pm 5% (PAL) 15,734 Hz \pm 5% (NTSC)

Monitor

Screen	3.5" colour LCD
Type	Active matrix (TFT)
Pixels	442 (H) x 238 (V)

displaying the OmniBase screen.

On the OmniBase select the camera from which the images want to be stored and find the first image of the sequence that wants to be recorded. Start the video recorder recording and press play on the OmniBase, the sequence is now being recorded. Stop the video recorder and OmniBase when the images are transferred to the video tape.

To improve results and increase the amount of footage recorded press Play twice on the OmniBase, to increase the speed of the images being played back. This typically allows a 3Hr VCR tape to store 12Hrs of OmniBase recordings. If a VCR is used with long play recording modes typically 24Hrs of OmniBase recordings can be stored on a 3Hr video tape.

Also using a SVHS Video recorder will give improved image quality.

PCLink Upload

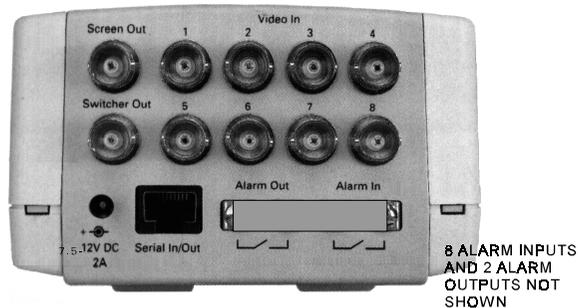
Small amounts of footage can be uploaded using PCLink software and a serial link cable. This upload method is slow (approx. 10kByte/second) and is therefore only recommended for very small (e.g. 5 to 10 minutes worth) of archiving.

Adjusting Factory Default Settings

A new unit is supplied with no recording on the hard disk, and with factory default settings on recording parameters. See MENU SYSTEM, in association with on-screen HELP facility for full explanation of settings available. From the RESET SYSTEM menu, one can reset the menu back to its default factory state and if required clear the alarm history, and delete any recordings on the hard disk (including write-protected images).

Operation

Sockets



Video In	Connect cameras to these sockets. They are numbered 1-8, and correspond to the camera buttons numbered 1-8 (see page 13).
Screen Out	This socket can be used to connect the unit to an external monitor. Everything seen on the OmniBase's monitor will also be seen on the external monitor.
Switcher Out	This socket can be used to connect the unit to a "front of house" monitor. The video switcher will cycle through the cameras for the display on this monitor.
8 Alarm Inputs	Provided on the 15 way 'D' type alarm connector (not shown). A normally open / closed alarm circuit can be connected across each of these terminals. The unit can then be triggered by these inputs to switch to alarm recording (see page 24).
1 Alarm Output	Provided on the 15 way 'D' type alarm connector (not shown). This relay output is either in an open or closed circuit state, depending on programmable alarm conditions (see page 29).
Serial In/Out	This socket can be used to connect the unit to storage and control peripherals.
Download	On bottom of unit (not shown above).

9. Type "E:\USBIDE\WIN30" or browse to find the directory (Where E: is the location of your CD-ROM drive). Click 'Next'.
10. Windows will find and install the drivers from CD-ROM, follow the on screen instructions. Restart the PC to allow the new drive to be detected.

Playing the image files from the cartridge using PCPlayer or PCLink.

1. Ensure the cartridge is switched on and connected to the PC.
2. Start PCPlayer or PCLink (must have been previously installed).
3. From 'File' menu select 'Open...'
4. From the pull down menu 'Look In:' select External Disk.
5. Select the archive file (*.oba) to be played.

Alternative Archiving Options

Video Capture Card

A low cost Video Capture Card (Frame Grabber) can be used in a PC to retrieve and store images onto a PC.

The composite video output of the OmniBase (Screen Out) should be connected to the composite video input (Phono Connector) of the video capture card, a phono to BNC adaptor will be required. The resolution of the video capture card images can be adjusted depending upon image quality required, up to 768 x 576. When the Video Capture Card software is running the OmniBase screen can be previewed in a window on the PC.

On the OmniBase select the camera from which the images want to be stored and find the first image of the sequence that wants to be recorded. Set the Video Capture software to start recording a video sequence and press play on the OmniBase. The Video Capture software can also be used to take snapshots, which may give more practical results.

Once the images are in the PC the files can be saved to any media accessible to the PC or transferred via email. Programs like Paint Shop Pro can be used to convert the stored images to other formats e.g. JPEG to save storage space.

Video Tape

The composite video output of the OmniBase (Screen Out) should be connected to the composite video input (Phono Connector) of the video recorder (VCR), a phono to BNC adaptor will be required. On the video recorder select the composite video input (e.g. AV1), the video output from the video recorder can be checked on a TV or monitor, which should be

The user can format (erase) the disk. Recordings between two times can then be copied to the External disk. Copy rate is 0.8 seconds / Mbyte.

>COPY TO EXT. DISK

This copies recordings between the times specified onto the external disk. The amount of data to be copied and the length of time it will take are shown in brackets. These reduce as the copy process continues.

The disk must be formatted first before any copy operation. Use the FORMAT EXT. DISK function for this. A copy process creates .oba files and a disk system that can be read by any PC. If FULL IMAGE EVERY 1 MIN is selected for recording each file holds one minute of recording.

File names are numerical with the first two digits holding the archive number (01 to 99). Every COPY TO EXT. DISK action increases the archive number by 1. THE FILE DATES MATCH THE RECORDING TIME SO USE THIS AS A REFERENCE FOR VIEWING. ON PCLINK USE THE TOP RIGHT BUTTON IN THE FILE OPEN SCREEN TO VIEW THE FILES WITH DATE INFORMATION. THIS WILL HELP IDENTIFY THE APPROPRIATE FILE. LED'S will flash during copy.

>FORMAT EXT. DISK

This erases the external disk and formats it so that it can be read by a PC. It sets up two files SYSTEM and SYSTEMB (THESE MUST NOT BE DELETED) which hold system information.

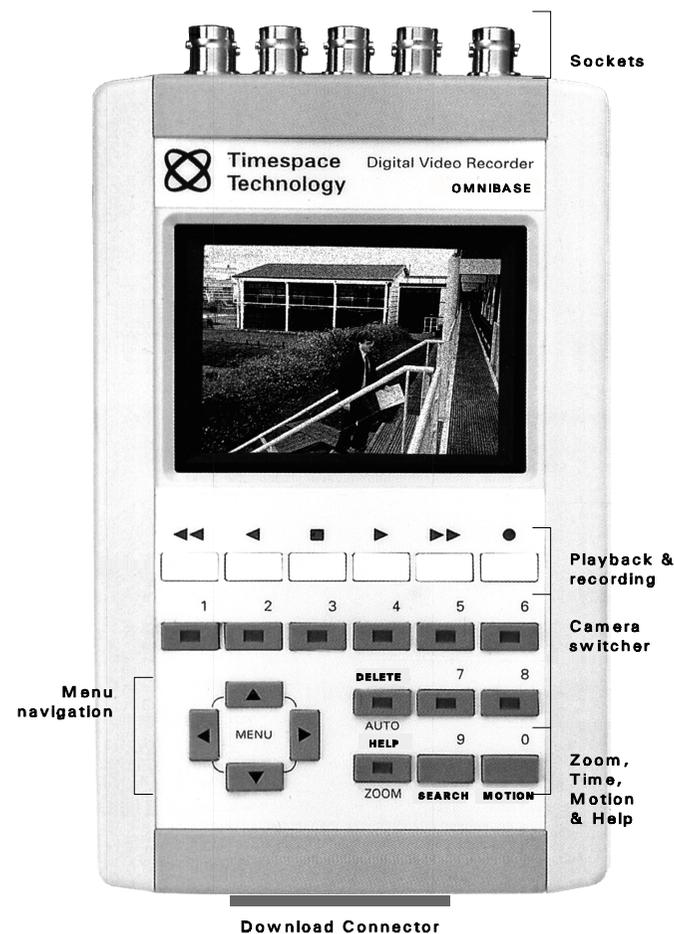
Reviewing the Cartridge on a PC using USB

Follow the instructions below to enable your PC to use the USB port to Interface to the T401- series removable cartridge.

Installing USB software on a PC running Windows 98 or Windows 2000.
NOTE WINDOWS 95 IS NOT SUPPORTED

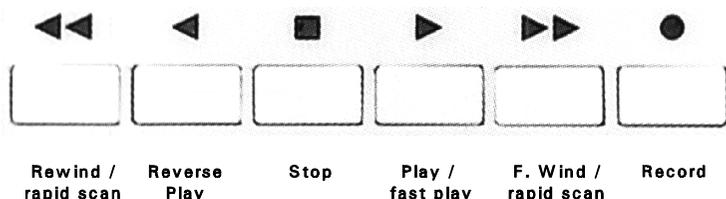
1. Place the CD-ROM (USB to IDE adaptor software) that came with the kit in the CD-ROM drive.
2. Plug the Power Lead provided to the mouse port on your PC and connect to the T401 cartridge.
3. Attach the USB Cable to the cartridge.
4. Switch ON the T401 cartridge (the LED will illuminate).
5. Plug the USB cable from the cartridge into the USB port on your PC.
6. Windows will automatically detect the new hardware.
7. Select 'Search for a better driver than the one your device is using now (Recommended)'. Click 'Next'.
8. Select 'Specify a location' when windows asks where to find the new driver software.

Controls



Note. Some models of OmniBase do not have the built-in LCD monitor, and some options in the monitor menu do not apply.

Playback & Recording



- ◀◀ **Rewind** through recorded footage. The normal wind interval is 1 minute. Pressing the button again increases the wind interval to 5 minutes. Repeated presses increase the interval to 10 / 20 and finally 60 minutes. This **Rapid Scan** mode enables fast, flicker-free searching through recorded material. If the LED above the ■ button is lit the unit is in jog mode and the ◀◀ button will rewind through recorded footage frame by frame, with intervals of 1 minute. Note that if the OmniBase is recording in motion format and the **FULL IMAGE EVERY** field is set to 2, 5 or 10 minutes, wind and rewind intervals will be limited to 2, 5 or 10 minutes respectively.
- ◀ **Reverse play** through recordings. If the LED above the ■ button is lit (jog mode), the ◀ button will jog to the previous frame. If the oldest frame has been reached, reverse playback will stop. Note that reverse play only operates on images that have been first played in a forwards direction.
- **Stop** playback. If playback is already stopped, pressing this button again lights the LED above and the unit is in jog mode, allowing frame by frame playback.
- ▶ **Play** recorded footage. Pressing play for a second time switches to fast play enabling all the footage to be played through at the fastest rate. If the LED above the ■ button is lit, the ▶ button will jog to the next frame. If the most recent frame has been reached, playback will stop.
- ▶▶ **Fast forward** through recorded footage. If the LED above the ■ button is lit the unit is in jog mode and pressing the ▶▶ button will jog forward. Similarly to rewind, repeated presses of the fast forward enable rapid scan in 5 / 10 / 20 / 60 minute intervals.
- **Record** start or stop. If not currently recording (red LED off), pressing this button will begin recording from the end of the most recent footage, using the settings specified in the “Normal Recording” menu (see page 19). If the unit is currently recording (red LED on), this button will stop recording.

Storing Images

OmniBase USB Interface Kit

(T309-USB)

This accessory is available to allow downloading of OmniBase recordings to the T401-series 2.5” IDE hard disk cartridges. The recordings can then be accessed via the USB socket on a PC/Notebook.

Kit Contents:

- 1 x OmniBase Interface Cable
- 1 x USB/IDE interface Lead
- 1 x PS/2 power lead
- 1 x Serial Link Cable
- 1 x PCLink reading/library software disk set
- 1 x USB to IDE adaptor installation CD

Downloading to Cartridge

Connect the “OmniBase Interface Cable” from the 50-pin socket in base of OmniBase (labelled “Download” or “OmniStore Digital Interface”) to 36-pin socket on T401-series cartridge. All download options are accessed from the EXTERNAL DISK menu.

```
EXTERNAL DISK (DISCONNECTED)

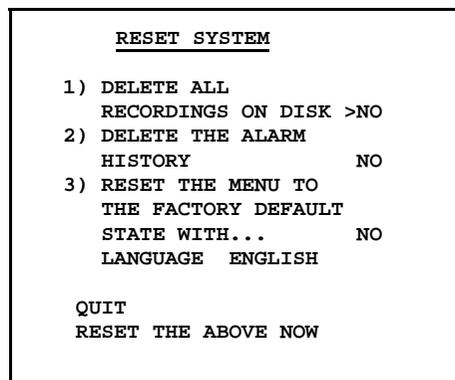
>FORMAT EXT. DISK

COPY TO EXT. DISK
FROM    TIME: 13:45:00
        DATE: 17/08/00
TO      TIME: 14:45:00
        DATE: 17/08/00
( 65 Mbytes, 1 MINS*)

DUAL RATE

EXIT      (*Download Time)
```

Reset System Menu



This is the “Reset System” menu, in which the OmniBase may be reset according to requirements.

1) DELETE ALL RECORDINGS ON DISK

Removes all recorded footage. Menus and alarm history are left but all alarm footage is also deleted in the process so a jump to the footage from the alarm history menu will not function.

2) DELETE THE ALARM HISTORY

Removes all entries in the alarm history menu. Note the alarm recordings are still available after this process, but any write-protection is removed, so that on the next recording pass over the disk the images will be overwritten.

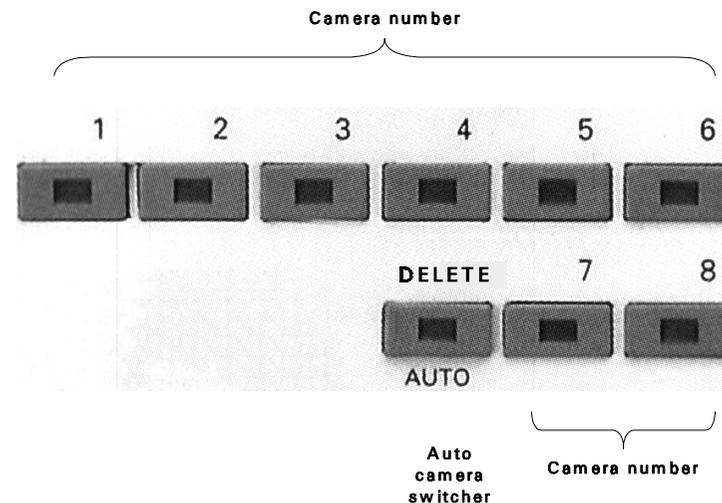
3) RESET MENU TO FACTORY DEFAULT STATE WITH LANGUAGE ENGLISH/FRENCH/AMERICAN

This reset the menu and sets up for other languages. Currently English, French and American languages are selectable.

WARNING

Choosing a full reset i.e. by putting YES into all three of the selections will reset the OmniBase to the factory shipped configuration. The menus will return to their default states, the “Alarm History” menu will be cleared, all menu settings will revert to factory default settings, and any recording on the hard disk (including write-protected images) will be deleted. The password remains unchanged.

Camera Switcher



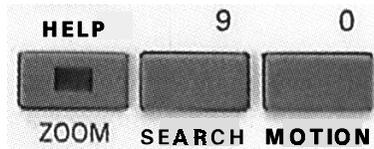
1-8 Switch the view to camera 1 to 8. When playing back recorded footage, pressing buttons 1 to 8 changes playback to that camera. If the AUTO LED is lit, buttons 1 to 8 change the live camera being viewed. This camera is held on the main monitor.

AUTO Activate the auto switcher mode. In this mode, the monitor will show a live view and the cameras are cycled as specified in the “Video Switcher” menu (see page 32). Press the AUTO button again to deactivate the auto switcher mode. If any of the buttons numbered 1-8 are pressed while in auto switcher mode, the camera switching is stopped, and the selected camera view is held on screen. Camera switching in this case is still maintained on the switcher output BNC socket.

DELETE When using menus this button is used to delete numbers.

Control of the auto switcher does not affect any recording in progress.

Zoom, Search and Help



ZOOM Zoom in on a frame from recorded footage (in black & white). Use the menu navigation buttons (see next page) to pan around the enlarged image. Press the ZOOM button again to return to original size. When the zoom function is active, the ZOOM button will be lit.

HELP Applies when using any menu. Pressing this button will produce a help screen. Continue pressing any key to cycle through help screens until menu returns.

SEARCH Go to a specific time and date in the recorded footage. Pressing this button will enter the “Jump to Time” screen (see page 15). If the footage on a given camera cannot be found (it may not have been recorded), a “**NO CURRENT IMAGES ON CAMERA**” message will be displayed. If there is no footage at the time specified a jump is made to the nearest footage to the time given.

See the next page for further information on Jump to Time.

MOTION Formerly the snapshot key, this key is reserved for future use.

- **SERIAL RATE / SERIAL ADDRESS**

These settings control the RS232 serial interface rate and the serial address of the OmniBase. They are used if the OmniBase is to be linked to a remote control modem system, or other remote access peripherals. Please consult remote system specifications. The control protocol is available from Timespace on request.

The serial rate must be set to 115200 and the serial address to 0 when the OmniBase is to be operated with PCLink software.

- **RESET CALENDAR RECORDING**

This is used for calendar recording (see Normal Recording Menu (Interval) page 19 and Timer Recording Menu (Interval) page 19). Resetting calendar recording resets the calendar time period (7/14/21/28/35/42 calendar days) to start from the current point in time. A full disk of recordings will be available in 7/14/21... days time and in multiples of this time period thereafter.

EXAMPLE:

If the user inspects the unit every week use 7 calendar day recording and reset calendar recording when setting up the unit (the first inspection). If inspections are made at the same time every week following on from this a full disk of footage will be available for review over the 7 day period. The RESET CALENDAR RECORDING function need not be done at each inspection but is advised if there is any variability in the time of inspection or if the day of inspection is changed.

Disk status under calendar recording is given at the bottom of the advanced menu with three numbers, for example:

D 40.00% T 50.00% F 1.5

D is the percentage of disk used so far in the period

T is the percentage of time used so far of the period

F is a rate factor that increases the current recording rate and gives improved performance when using calendar recording. F can be viewed as a “benefit factor”. $[F=T*(100-D)/(D*(100-T))]$

Advanced Menu

```
          ADVANCED

24 / 48 / ... HOUR MODE
RECORDING RATE BASED ON
PREVIOUS:
  >10 MINUTES RECORDING

SHOW IMAGE INFO: >NO

SERIAL RATE:      115200
SERIAL ADDRESS:   0
RESET CALENDAR RECORDING
D 40.00% T 50.00% F 1.5
```

The advanced menu provides control over more sophisticated OmniBase functions:

- **24 / 48 / ... HOUR MODE RECORDING RATE BASED ON PREVIOUS**

This controls the hour mode optimization algorithm. Essentially when the unit is recording in an hour mode such as 48 hour mode or 168 hour mode it uses the previous *n* minutes of recording as an estimate for the recording rate for the next minute. The value of *n* is selectable.

An *n* of 1 minute gives a system that is very responsive - the next minute's recording rate is based on the previous 1 minute's statistics. Any short term fluctuations will cause the system to rapidly recalculate the recording rate. 1 minute should be selected for systems that require no less than the number of hours specified by the hour mode.

Choosing an *n* of 1 hour gives a system that smoothly adjusts its update rate based on the previous hour. This avoids any short term fluctuations in rate but can in extreme cases cause less recording on disk than is specified by the hour mode. The user should select a value of *n* to suit the recording requirements.

- **SHOW IMAGE INFO**

If this is selected the file size in bytes for each image or partial image (in motion format) is displayed along with the percentage of the screen that has been updated. The display is overlaid (not embedded) into each image that is played back. In full format recording the latter is always 100% whereas in motion format recording the percentage may drop down to around 1% in a still scene. Note that the time is embedded in the recorded image and will provide some motion content on the screen.

Jump to Time Screen

```
          JUMP TO TIME

TIME:  12:24:00
DATE:  01/12/98

>JUMP TO TIME ABOVE
JUMP TO OLDEST
JUMP TO LATEST

EXIT
```

This is the "Jump to Time" menu, which is displayed after pressing the SEARCH button (see page 14), and allows instant access to any time (on the minute) and date in recorded footage.

- **TIME** - Type a time using the numbered buttons.
- **DATE** - Type a date using the numbered buttons.
- **JUMP TO TIME ABOVE** - Hit the right arrow menu key to jump to the time entered in the time and date fields.
- **JUMP TO OLDEST** - Jumps to the oldest recordings on disk. The oldest refers to the oldest in sequential order as opposed to the oldest date (maybe the date was changed due to time date adjustments and sequential order is not mirrored to time/date order). Time and date changes do not affect playback in any way (DISC 2000 conformity spec). The time / date information is only used in a jump to time operation.
- **JUMP TO LATEST** - Jumps to the newest recordings on disk. Similar to **JUMP TO OLDEST** otherwise.

If the footage cannot be found for a particular camera (the camera may not have been recording at that time / date), a "NO CURRENT IMAGES ON CAMERA *n*" message will be displayed (*n* being the selected camera view).

If there are no recordings available at a current time specified the **JUMP TO TIME** function will jump to the nearest available footage. A jump can only be made to a full image and the **JUMP TO TIME** function will jump to the nearest available full image (key frame).

You must use leading zeros for the time and date where necessary, e.g. 09:45 and 04/07/98.

The Menu System

The menu system is used to configure the OmniBase. Configuration parameters include recording resolution, camera sequencing, timer settings and alarm triggering and alarm triggered recording. There is also access to monitor options, peripheral installation and password functions. The password restricts the operator's ability to access playback, recording, switcher and menu functions.

A menu can contain the following types of entry:

- **Sub-menu heading** - press the right arrow menu key and the sub-menu is entered.
- **Function** - press the right arrow menu key and the function is performed (e.g. Reset System).
- **Selection** - press the left and right menu keys to cycle through the choices.
- **Numeric item** - input numbers 0 to 9 on the keypad (e.g. entering a time) and use the DEL button to correct mistakes.

Any changes made to the menu system have immediate effect. Any changes to the menu are stored onto the hard disk within 3 seconds of the user making the change. To revert to the factory settings run a RESET MENU function in the RESET SYSTEM menu.

EXAMPLE

As an example the OmniBase disk might record cameras 123 continuously. With a timer the T401 cartridge could be set to record cameras 123 during working hours (Normal menu), camera 3 outside working hours (via Timer) and the alarmed cameras during an alarm (Alarm menu). A rate reduction of x2 is chosen so that the T401 cartridge records at 1 image every 2 seconds for each camera (approx). With 20% conditional refresh (typical) for the T401 cartridge,

OmniBase disk of 3.2GByte: 5 hours
T401 cartridge of 25GByte: 41 days*

[*50kB x 20% per image assumed]

A pro-rata calculation can be made for different capacity hard disks.

If there are less cameras in the Normal / Timer / Alarm order list these get picked off as required. For example using the previous example but replacing the T401 cartridge (Normal/Timer/Alarm) order list with 123, gives:

```

Recording sequence x2 selected
OmniBase (high speed) 123412341234123412341234....
T401 (long term)      123    123    123    ....
  
```

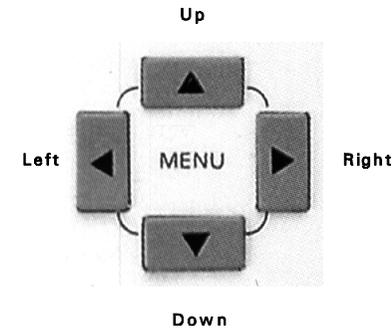
Rate reduction effectively reduces the amount of recorded data on the T401 cartridge by the factor indicated, or equivalently increase the capacity. Using conditional refresh on the T401 cartridge will give further savings. For example assume a T401 cartridge fitted with a 25 GByte disk can hold 2 days of full update recording at max rate. Then savings can be made as follows:

25 GByte T401 cartridge 40kB per image, full update, 3.5 images / sec = 2 days capacity.

Rate reduction	Format	Saving	Duration/days
NO CHANGE	FULL	x1	2
x2		x2	4
x3		x3	6
NO CHANGE	CONDITIONAL	x2	4
x2	50% update	x4	8
x3		x6	12
NO CHANGE	CONDITIONAL	x5	10
x2	20% update	x10	20
x3		x15	40

Further savings would also be made if timer recording can be used. For example recording during working hours 9am -5 pm Mon - Sat, 9am -2pm Sun gives a further saving of x3 on the above figures. Duration would increase x 3. A 25 GByte disk at average (20%) motion scene and x3 rate reduction with timer recording would operate for 120 days.

Menu Navigation



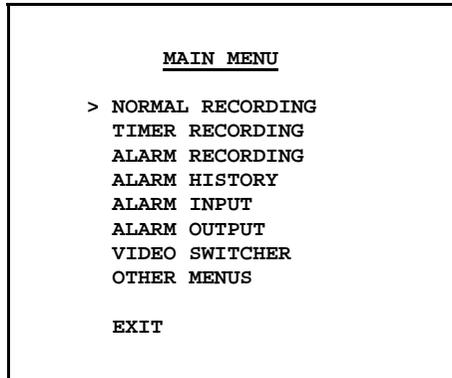
Press any of the 4 menu buttons to enter the main menu. Once in the menu system, their function is as follows:

- ▲ Move up to the next menu item. If the pointer is currently at the top of the menu, pressing the up button will exit the menu.
- ▼ Move down to the next menu item. If the pointer is currently at the bottom of the menu, pressing the down button will exit the menu.
- ◀ If the pointer is currently at a menu selection (e.g. **RESOLUTION: > HIGH**), pressing the left button will cycle the value backwards, (e.g. to **RESOLUTION: > MEDIUM**),
- ▶ If the pointer is currently at a menu selection (e.g. **RESOLUTION: > LOW**), pressing the right button will cycle the value forwards, (e.g. to **RESOLUTION: > MEDIUM**).
If the pointer is currently at a sub-menu title (e.g. **> OTHER OPTIONS**), pressing the right button will enter this sub-menu.

If the ◀ or ▶ keys have no effect, then numerical entry using keys 0 to 9 is required. The DELETE key can be used to delete numerical entries.

If the zoom function (see page 14) is active, the up, down, left and right buttons pan around the enlarged image. If the “Brightness and Colour” section (see page 38) has been entered, the up and down buttons are used to increase and decrease the brightness of the internal monitor, and the left and right buttons are used to increase and decrease the colour intensity of the internal monitor. The default position of the pointer is indicated by “>”.

Main Menu



This is the main menu, from which further sub-menus can be accessed. Here is a summary of the menu selections available:

- **NORMAL RECORDING** - the default recording setup activated by the record on/off button.
- **TIMER RECORDING** - the recording setup activated by the inbuilt weekly interval timer.
- **ALARM RECORDING** - recording setup activated by the alarm input.
- **ALARM HISTORY** - lists the alarms that have occurred and allows a jump to the alarm in question.
- **ALARM INPUT** - gives the open / closed / inactive conditions for each of the 8 alarm inputs
- **ALARM OUTPUT** - governs the operation of the alarm output relay.
- **TIMER** - the weekly timed recording setup.
- **VIDEO SWITCHER** - allows the dwell times of the video switcher to be controlled.
- **OTHER MENUS** - leads to the other menu items.

Use the up / down buttons to select a sub-menu and the right button to enter a sub-menu.

RESOLUTION: This is always high. The resolution settings on the Normal / Alarm / Timer Recording menus are ignored.

FORMAT: This is either full image update or conditional refresh as governed by the Normal / Alarm / Timer Recording menus.

ORDER: This is governed by the Normal / Alarm / Timer Recording menus. **Note that the camera order specified in these menus cannot include cameras not in the order list of the Dual Rate menu.**

Dual rate recording starts immediately once **DUAL RATE: ON** is selected. Both OmniBase and T401 cartridge record in parallel. The T401 cartridge uses Normal Recording by default with optional Timer or Alarm recording as set up in the menus. Note also that write protection (as set up in the Alarm menu) only applies to the OmniBase disk. There is no write-protection mechanism on the T401 cartridge.

- **ORDER: 1234** - As explained above the ORDER entry applies to the high speed recording on the OmniBase disk. The ORDER list should contain all cameras included in the ORDER lists of the Normal / Timer / Alarm Recording menus.
- **RATE REDUCTION: NO CHANGE, x2, x3, ... x15** - This controls the record rate of the long term T401 cartridge recording. This is best explained using an example:

Assume Normal Recording (T401 cartridge - long term) order is set to 1234. Assume Dual Recording (OmniBase - high speed) order is set to 1234 as well. If NO CHANGE is selected then the T401 cartridge and OmniBase record at the same (maximum) rate (for this mode approx 3.5 images per second). If x2 is selected then the T401 cartridge will record at half the rate of the OmniBase. This is achieved by missing out recording every other pass through the order list. Some examples are shown below:

	Recording sequence NO CHANGE selected
OmniBase (high speed)	123412341234123412341234....
T401 (long term)	123412341234123412341234....

	Recording sequence x2 selected
OmniBase (high speed)	123412341234123412341234....
T401 (long term)	1234 1234 1234

	Recording sequence x3 selected
OmniBase (high speed)	123412341234123412341234....
T401 (long term)	1234 1234

Dual Rate Menu

```

          DUAL RATE

DUAL RATE: >OFF

INTERVAL:   MAX RATE
RESOLUTION: HIGH
FORMAT:     FULL UPDATE

ORDER: 1234
RATE REDUCTION: x 3

EXIT
```

The dual rate menu is accessed from the external disk menu described earlier.

Dual Rate operation allows recordings to be made onto the OmniBase disk and in parallel long term recordings to be made on a T401-series external hard disk cartridge. The dual rate principle is that the OmniBase stores at high speed and in full format (for critical short term recording), while the T401 cartridge contains slow speed conditional refresh recordings. Often requirements can be partitioned into short term - high speed recording and long-term slow speed recording and the dual rate feature is effective for these applications.

If dual rate recording is selected the Dual Rate menu governs the recording on the OmniBase disk, and the Normal/Alarm/Timer recording menus govern the recording on the T401 cartridge. This is dealt with more specifically later in this section.

The **INTERVAL**, **RESOLUTION** and **FORMAT** settings in the above menu cannot be edited and are fixed at **MAX RATE**, **HIGH**, and **FULL UPDATE** respectively. The editable fields of the menu are explained below:

- **DUAL RATE:** ON/OFF - This switches the dual rate menu on and off. If dual rate is off then the dual rate menu is not used. If dual rate is on then the unit operates as follows:

The OmniBase records using parameters taken from the Dual Rate menu

The T401 cartridge records with the following parameters:

INTERVAL: This is controlled by the **RATE REDUCTION** parameter (see below). The **INTERVAL** settings on the Normal / Alarm / Timer Recording menus are ignored.

Normal Recording Menu

```

          NORMAL RECORDING

INTERVAL:   >48 HOUR
RESOLUTION: HIGH
FORMAT:     COND. REFRESH
FULL UPDATE EVERY: 1 MIN
ORDER: 1234

EXIT
```

The OmniBase has three recording modes:

- **Normal recording** - This is triggered by pressing the ● button (see page 12) or is switched on after timer recording (see timer menu).
- **Timer recording** - This is active during or outside the working hour times of the inbuilt timer (see page 31).
- **Alarm recording** - This is triggered by making / breaking a circuit across the Alarm In terminals (see page 24 / 29).

The following details the “Normal Recording” menu options:

- **INTERVAL** - This can be specified in one of two ways:
 - **12, 24, 48, 72, 168, 480, 960 HOUR** - This specifies the number of hours of recorded footage that the OmniBase holds on its hard disk. The OmniBase automatically loops round and will have the most recent recordings available for view (it deletes the oldest first). The OmniBase uses the previous 1 / 5 / 10 minutes recording to estimate an appropriate update rate (selectable in the advanced options menu). The update rate depends on the file size of the recorded image. Basically if each image only takes up a small fraction of the disk space, more images per second can be recorded for a given total recording interval. Image file size depends on the composition of the scene being recorded as well as the amount of motion in a scene (if motion format is selected). The algorithm used ensures that typically 100% to 140% of the number of hours specified is available at any one time. If the record timer is used then the hours specified refers to the total recorded hours: e.g. if the timer is set up to only record for 1/2 of the week, a 168 hour setting will give 168 hours recording, spread over the previous two weeks. **Allow at least 10 minutes for the recording rate to settle once an hour mode has been selected.** The statistics page shows the actual update rate and bytes per minute for user verification.

- **MAX RATE, 1/6, 1/5, 1/4, 1/3, 1/2, 1, 2, 5, 10, 20, 30, 60 SECS** - This specifies the time interval between image captures from each camera in the **ORDER** list. Choose **MAX RATE** to record at maximum update rate. With this form of specification the unit has a fixed update rate, but a variable total recording time (dependant on image file size).
- **7 / 14 / 21 / 28 / 35 / 42 CAL. DAYS** - This specifies the record time as a period of calendar days. The OmniBase will record for a fixed calendar period and “make the most” of this period. These settings are useful if the amount of recording time over a period is not known or variable. A user for example may want to record for 28 days but the OmniBase may only be actively recording for between 4 and 20 days over this period. Further details are given in the Advanced menu section (page 46).
- **RESOLUTION** - This can be set to:
 - **LOW** - This sets the highest compression level - images recorded with visible blocking artefacts.
 - **MEDIUM** - This sets the medium compression level - images with little loss of quality, adequate for most applications.
 - **HIGH** - This sets the lowest compression level - high quality images with near perfect reproduction.

The actual size, in pixels, of a recorded images is 624(h) × 280(v) PAL 624(h) x 240 (v) NTSC (non square pixels) regardless of the **RESOLUTION** setting. See below for approximate file sizes.

- **FORMAT** - This can be set to:
 - **COND. REFRESH** - In this mode, the unit only saves the areas of the image that change due to motion from image to image (conditional refresh). The rest of the image can be restored from previous frames. This can help to increase recording time and reduce image file size especially in static or low-motion scenes (such as car parks, offices etc.). Conditional refresh format is the preferred choice for normal recording.
 - **FULL UPDATE** - In this mode, each image is saved as a full compressed image.
- **FULL UPDATE EVERY: 10/20/30 SECS, 1/2/5/10/20 MINS**
This line only appears if conditional refresh format is selected. Conditional refresh format only stores image changes, but a full image is required at intervals on the recorded cameras. This full image is sometimes referred to as a keyframe. All playback starts from a keyframe as the first reference point. Also the fast - forward / rewind operations only play back keyframes. The pros and cons of selecting short / long keyframe intervals are as follows:

1 minute; Easy to find footage in wind or rewind because start points exist every minute BUT expensive on disk space as full images may take up to 10 x the equivalent hard disk space

External Disk Menu

```

EXTERNAL DISK (DISCONNECTED)

>FORMAT EXT. DISK

COPY TO EXT. DISK
FROM      TIME: 13:45:00
          DATE: 17/08/00
TO        TIME: 14:45:00
          DATE: 17/08/00
(   65 Mbytes,   1 MINS*)

DUAL RATE

EXIT      (*Download Time)

```

The external disk menu controls large scale archiving to an external disk. This can then be reviewed on a PC using the USB Interface Kit. For further information see page 49.

Statistics Menu

```

STATISTICS

OPERATING SYSTEM V2.36

RECORDING:
 2937 KBYTES/MIN
 3047 MBYTES DISK FREE
 127 IMAGES/MIN
 13.53 KBYTES/IMAGE AVE.

(ALL BASED ON LAST MINUTE)
      *13010
    
```

This statistics page gives the operating system version number as well as the recording statistics based on the last minute of recording. The recording statistics are updated every minute and are intended to be used for monitoring a camera system and to provide an indication of the capacity of the OmniBase in different recording environments.

The kbytes/min entry indicates how many thousand bytes have been recorded in the most recent minute

The Mbytes disk free entry indicates how many Megabytes of disk space are free for loop recording. If there are no alarm recordings this figure will be constant and indicate the size of the hard disk. With write-protected alarm recordings the free space goes down.

The number of images recorded in the last minute is indicated.

The kbytes/image average is produced by dividing kbytes/min by images/min.

of motion images. This is especially significant in 168 / 480 / 960 hour modes.

10 minutes; Difficult to find footage because start points every 10 minutes, BUT efficient on disk usage as full images are infrequent.

A keyframe rate is automatically provided when the user edits the **NORMAL MENU**. The rate is calculated as the nearest setting to (no. of recorded cameras) * (hours recording) ÷ 200.

- **ORDER** - This determines the order in which images are grabbed from the cameras. During recording LED flashes show the camera sequence to the operator. Use the buttons numbered 1-8 to include cameras, and the DELETE button to remove them from the list.

Approximate image sizes (in kB):

		Resolution:		
		Low	Medium	High
Format:	Full	20	30	50
	High Motion	10	15	25
	Medium Motion	3	4.5	7.5
	Low Motion	1.6	2.4	4

Full Format Image size typically 20/30/50 kB per image

Motion format:

High Motion Pedestrian precinct, very busy office, scenes with continuous motion. 50% screen update so image sizes are 50% of full format recording.

Medium Motion Bank, office, warehouse with activity, factories retail premises, busy car parks, storage handling areas. 15% screen update so image sizes are 15% of full format recording

Low Motion Small car park, quiet entrance hall, warehouse with infrequent activity, small office, private home. 8% screen update so image sizes are 8% of full format recording.

Dividing the available disk space by a figure in the previous table gives the number of images that can be stored on an OmniBase.

e.g. High res.

Motion format with a medium motion scene i.e. 7.5 kB per image

3.2 GByte disk version:

$$3,200,000,000 \div 7,500 = 427,000 \text{ images}$$

It must be noted that not all the images stored in motion format are partial updates, as the unit will record full images on each camera at 1 / 2 / 5 / 10 /

20 minute intervals (as specified by the **(FULL IMAGE EVERY n MIN)** line in the Normal / Alarm recording menus). These full images are sometimes known as keyframes and are used as reference points in playback. The calculation above is affected by the recording of keyframes and typically the number of images calculated above should be reduced by 15 % to take this into account.

If an OmniBase is recording with the following parameters:

Full-time recording, Maximum record rate, Full format
High Resolution, Average image size of 33kB

Then approximately 2.05 hours of recording can be expected per Gb of hard disk.

The following options can increase these hard disk recording times significantly:

- 1) Slower record rate
- 2) Conditional refresh
- 3) Timer recording
- 4) Alarm recording
- 5) Reduced recording resolution
- 6) Use of mono cameras

Current Date Menu

```
CURRENT DATE

TIME: >12:24:00
DATE: 01/12/98
      (DAY/MONTH/YEAR)
DAY: THURSDAY
SET THE DATE

SUMMER TIME ADJUST: ON
COUNTRY: UK

EXIT
```

This is the “Current Date” menu, in which the current time and date can be set and seasonal correction activated. The menu selections are as follows:

- **TIME** - Type a time using the numbered buttons.
- **DATE** - Type a date using the numbered buttons.
- **DAY** - Select a day using the left / right buttons.
- **SET THE DATE** - Press the right button to set the time, date and day as entered above.

You must use leading zeros for the time and date where necessary, e.g. **09:45** and **04/07/98**.

The unit is shipped from the factory with date and time set to GMT (UCT).

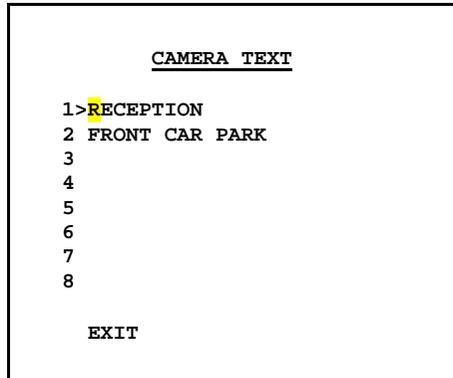
- **SUMMER TIME ADJUST** - Set this **ON** if you would like the unit to automatically correct for daylight saving time.
- **COUNTRY** - the current selections are:

UK/CENTRAL EUROPE/USA

Summer Time Adjust is automatically applied even if the unit is switched off during the time at which the clocks go forwards or backwards. In the latter case correction is applied on power-up. A message is displayed indicating to the user that the time has been modified and the user presses any key to take him/her to the date menu. The time should be validated.

NOTE: Choosing **RESET MENU** in the “Reset System” menu causes all menus to return to their default settings. The default setting for **COUNTRY** matches the language selected.

Camera Text



Allows up to 25 optional digits of text per camera. For instance vehicle registration number, branch name, location in building etc., can be displayed on recordings, in addition to the camera number and date and time.

This menu is entered from the **OTHER MENUS -> MONITOR MENU**. Camera text can be entered for each camera. Use the menu arrow keys to move the cursor around the page and the number keys to enter numbers or text. Basically lower numbers (1, 2..)do the lower digits and higher numbers (..8,9) do the higher digits. More specifically the number keys map to numbers / characters in the following way:

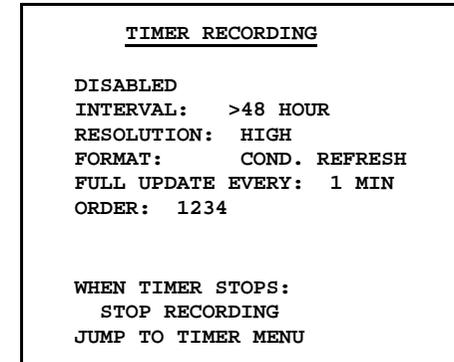
Key Number/Characters

1	A B C 1 (space)
2	D E F 2 (space)
3	G H I 3 (space)
4	J K L 4 (space)
5	M N O 5 (space)
6	P Q R 6 (space)
7	S T U 7 (space)
8	V W X 8 (space)
9	Y Z [9 (space)
0	> ? @ 0 (space)

Keep pressing keys 0 to 9 until the desired character appears. For example pressing key '1' gives the 'A' character, pressing again, the 'B' character, again the 'C' character, again the '1' character and finally the SPACE character. The sequence repeats.

The camera text will appear above the Time/Date stamp on each image. Like the Time/Date stamp it is embedded into each image and cannot be removed from the image.

Timer Recording Menu



This is the “Timer Recording” menu, which applies when recording is activated during or outside working hours. Menu options are summarised below:

- **DISABLED / DURING WORKING HOURS / OUTSIDE WORKING HOURS** - By default, timer recording is disabled. Press the right menu key to select timer recording to operate either during working hours or outside working hours. These hours are specified in the Timer menu which can be entered by the **JUMP TO TIMER MENU** line .
- **INTERVAL** - This selection is the same as the **INTERVAL** selection in the “Normal Recording” menu, except it applies only during timer recording.
- **RESOLUTION** - This selection is the same as the **RESOLUTION** selection in the “Normal Recording” menu, except it applies only during timer recording.
- **FORMAT** - This selection is the same as the **FORMAT** selection in the “Normal Recording” menu, except it applies only during timer recording.
- **FULL UPDATE EVERY** - This information is the same as the **FULL UPDATE EVERY** selection in the “Normal Recording” menu, except it applies only during timer recording.
- **ORDER** - This selection is the same as the **ORDER** selection in the “Normal Recording” menu, except it applies only during timer recording.
- **WHEN TIMER STOPS: STOP RECORDING / DO NORMAL RECORDING** - At the end of a period of timer recording the OmniBase can either stop recording until the next period or else switch to Normal recording. For example cameras 1,2 and 3 could be recorded normally but only cameras 1 and 2 during working hours - for this have:
ORDER: 123 in the normal recording menu,
ORDER: 12 in the timer recording menu,
and select **DURING WORKING HOURS** recording plus **WHEN TIMER STOPS: DO NORMAL RECORDING**.
- **JUMP TO TIMER MENU** - jump to the menu with the timer on/off times for Monday to Sunday.

Alarm Recording Menu

```
ALARM RECORDING

DISABLED
INTERVAL: >MAX RATE
RESOLUTION: HIGH
FORMAT: FULL UPDATE

ORDER: 1234
USE ORDER ABOVE
TRIGGER:
SEE ALARM INPUTS MENU
PRE-TRIG RECORD: OFF
POST-TRIG RECORD: 30 SECS
WRITE PROTECTION: ON
```

This is the “Alarm Recording” menu, which applies when recording is triggered by the alarm in relay input(s). Menu options are summarised below:

- **DISABLED / DURING WORKING HOURS / OUTSIDE WORKING HOURS / ENABLED AT ALL TIMES** - Alarm recording is disabled by default. It can be enabled during or outside the times specified in the timer menu (see timer recording) or enabled at all times. When the alarm recording is in a disabled state, any changes on the alarm inputs will have no effect on the OmniBase. When enabled the alarm inputs and the alarm inputs menu control the alarm recording as set up in the alarm recording menu.
- **INTERVAL** - This selection is the same as the **INTERVAL** selection in the “Normal Recording” menu, except it applies only during an alarm event.
- **RESOLUTION** - This selection is the same as the **RESOLUTION** selection in the “Normal Recording” menu, except it applies only during an alarm event.
- **FORMAT** - This selection is the same as the **FORMAT** selection in the “Normal Recording” menu, except it applies only during an alarm event.
- **FULL IMAGE EVERY** - This information is the same as the **FULL IMAGE EVERY** selection in the “Normal Recording” menu, except it applies only during an alarm event. These are not user selectable settings.
- **ORDER** - This selection is the same as the **ORDER** selection in the “Normal Recording” menu, except it applies only during an alarm event.
- **USE ORDER ABOVE** - When any of the alarm inputs are active the OmniBase records using the camera order given above. Other options are:
 - ONLY ALARMED CAMERAS** - Which means that only alarmed cameras will be recorded. There are 8 alarm inputs one per camera.
 - PRIORITISE ALARMED CAMERAS** - The basic camera order used is taken from the Normal Recording menu. Alarmed cameras are recorded along with these other cameras but given priority. For example if the Normal Recording order is 1234 an alarm event on camera 1 will make the

Brightness and Colour Controls

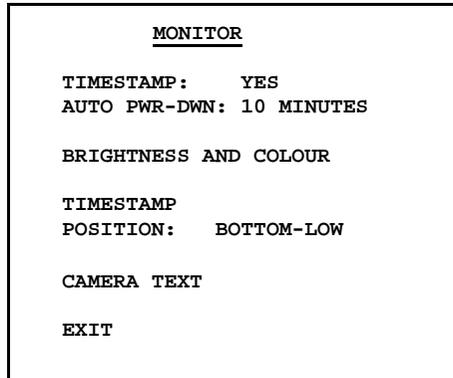
```
BRIGHTNESS
UP
△
COLOUR ◀ ▶ COLOUR
DOWN UP
▽
BRIGHTNESS
DOWN
KEYS 1-8 = CAM, OTHER = EXIT
```

This is the “Brightness and Colour” help screen, which is displayed before switching to a live camera.

- ▲/▼ Press the up and down buttons to increase and decrease the brightness of the monitor.
- ◀/▶ Press the left and right buttons to increase and decrease the colour intensity of the monitor.
- 1-8 Use the buttons numbered 1-8 to select cameras 1-8.

Press any other button (for example the **MOTION** button) to return to the “Monitor” menu(see previous page).

Monitor Menu



This is the “Monitor” menu, which governs the internal monitor in the OmniBase and also timestamp related control.

- **TIMESTAMP** - If set to **YES** images will be stored with an embedded time / date stamp. See below for a description of the time stamp.
- **AUTO PWR-DWN** - If the OmniBase has not been used after a specific duration, the unit’s inbuilt monitor will turn off, to avoid monitor burn-in. Pressing any button on the keypad will turn the monitor back on. This does not affect recording or any external monitors connected to the unit. Select the auto power down time using the left and right menu keys.
- **BRIGHTNESS AND COLOUR** - Enter the Brightness and Colour help screen (see next page).
- **TIMESTAMP POSITION** - The position of the timestamp can be moved to either bottom -low/bottom-mid/bottom-high which are 3 positions below the main image or top-low/top-mid/top-high which are 3 positions above the main image.

A typical time stamp which appears on all images output on the monitor is shown below.



During an alarm event, an “A” will appear at the end of the time stamp. The camera number indicates which camera grabbed the image, and the time and date indicate when the image was grabbed.

- **CAMERA TEXT** - voluntary text for each camera can be entered (see Camera Text menu on page 38)

OmniBase record in the order 121314 121314 e.t.c. Camera 1 is effectively prioritised over the other cameras.

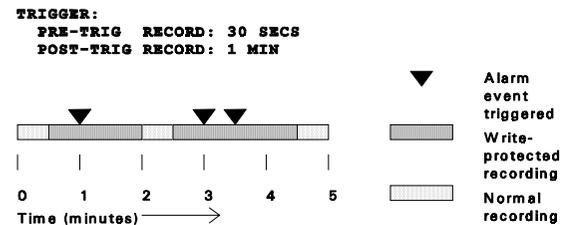
- **TRIGGER** - the alarm recording is triggered by the alarm inputs (See the alarm input menu). [Old versions of OmniBase (pre year 2000) do not have the Alarm inputs menu and only have a single alarm input which is set up on this line].
- **PRE-TRIG RECORD: OFF/1/2/5/10/20/30/45/60/90/120 MINS.**
This specifies the duration of footage to be write-protected, prior to the alarm event trigger. This allows the footage leading up to the alarm event to be protected and reviewed, without the risk of it being over-written by later recording. Pre-trig recorded footage is only available if the unit has been recording prior to the alarm event. (Note write protection only occurs if **WRITE PROTECTION: ON** selected)
- **POST-TRIG RECORD: 5/10/20/30/45 SECS.**
1/2/5/10/20/30/45/60/120 MINS.

This specifies the duration of footage after the alarm event to be write protected. This allows the footage during the alarm event to be reviewed, without the risk of it being over-written by later recording. All footage during the post-trigger period is marked with the character A (Alarm) and a log is placed in the alarm history list. (Note write protection only occurs if **WRITE PROTECTION: ON** selected)

When the alarm event occurs, the unit will begin recording as specified by the Alarm Recording Menu. After the post-trig time has elapsed, the unit will return to normal / timer recording if it had been recording before the alarm event, or else it will stop recording.

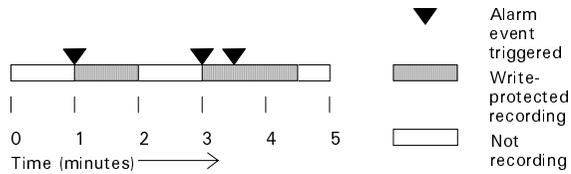
If another alarm event occurs during an alarm recording, the whole post-trig time from that point is write-protected (if write-protection is active), as well as the period from the first event. Write-protection of alarm recorded footage can be removed by deleting the corresponding event in the “Alarm History” menu (see page 27).

Examples:



In this example, 30 seconds of recorded footage before the alarm event was triggered will be write-protected, as well as the 1 minute after the trigger. The third trigger extends the alarm event to 1 minute after the trigger.

TRIGGER:
 PRE-TRIG RECORD: 30 SECS
 POST-TRIG RECORD: 1 MIN



In this example, no recording is in operation prior to the alarm event, so no pre- trig recording will be available.

- **WRITE PROTECTION: ON/OFF** - If write protection is on, then alarm recordings are write protected between the pre-trigger and post-trigger times automatically. Alternatively with the write protection switched off, no automatic write protection of alarm recordings occurs. (Recordings are still marked with an 'A' character (Alarm) and a log is still placed in the Alarm History)

be disabled. Some typical setups are given below.

Examples:

Selection:	Set to:		
MENU	YES	YES	YES
RECORDING	YES	YES	NO
PLAYBACK	YES	NO	NO
SWITCHER	YES	NO	NO
Result:	Full protection - no functions available.	Allow the user to review footage and look at live cameras only.	Allow the user to carry out basic functions, but without access to any menus.

The password for the unit when the unit is shipped is 0000. This may be changed as described previously. Note also that Timespace Technology hold a unique escape key sequence for each OmniBase. If a password has been forgotten the escape sequence can be requested from Timespace Technology (a charge will be made for this service) and with the appropriate authentication the key sequence will be given. Holding down the keys in the key sequence whilst powering up the unit will run a system reset and the unit will be in the state it was when shipped. The password will be 0000 in this new reset state.

Password Menu

```
          PASSWORD

PASSWORD PROTECTION FOR:
MENU:      >NO
RECORDING: NO
PLAYBACK:  NO
SWITCHER:  NO

CHANGE PASSWORD
EXIT
```

This is the “Password” menu, which restricts user access to the four key parts of the system. Here is a summary of the menu selections available:

- **PLAYBACK** - If set to **YES**, the controls to review recorded footage (see page 12) are password protected. The zoom function is also password protected.
- **RECORDING** - If set to **YES**, the record button (see page 12) is password protected.
- **SWITCHER** - If set to **YES**, the button to activate auto switcher mode (see page 13) is password protected.
- **MENU** - If set to **YES**, access to the menu system is password protected.

If the user tries to access a protected function, he is asked to type in the password. The default password is 0000 when shipped. On correct password entry (four digits e.g. 3524 or 8912) the password protection is temporarily disabled until the monitor internal to the OmniBase auto powers down. This occurs normally after 10 minutes of no key presses, the time being selectable from the monitor sub menu. After this period password protection is reinstated. Protection is also automatically reinstated on entry into the password menu.

- **CHANGE PASSWORD** - The supervisor who knows the password is requested to type in the old password, followed by the new one. He is then requested to retype the new password. If he has done this successfully the new password is made the current one and the password protection is activated.

HINTS

It is intended in a password protected system to at least protect the menu system. This ensures that important operating settings cannot be tampered with. Other protection may be required e.g. the record on / off button may

Alarm History Menu

```
          ALARM HISTORY

1: 12:01:30 09/10/99
2: 09:30:45 11/11/99
3:
4:
5:
6:
7:
8:
9:
10:
      1% OF DISK
DEL TO DELETE, < TO EXIT
```

The “Alarm History” menu holds a history of up to 200 alarm events, and provides instant access to the footage recorded during an event.

If an alarm event has occurred, the time and date of the alarm will be recorded here. To jump to a particular alarm event, use the up / down buttons to choose one of the 200 events, and the right button to select it. A jump will be made to the keyframe preceding the alarm event, from which the previous footage (pre-trig recording) and following footage (post-trig recording) can be viewed (see page 24 for more details on alarm recording).

To delete an individual alarm history event, select the event with the up / down keys and press DELETE. The percentage of disk space used by alarm recording is also displayed. Basically this percentage of the disk is write protected and cannot be overwritten. Obviously as this percentage increases, there is less space for loop recording. For this reason it is advised that the user deletes unimportant events from the alarm history list. Note that the actual footage is not deleted but merely unwrite-protected. On the next recording pass over the hard disk it will be deleted.

When the alarm history is full (i.e. contains 200 entries) Alarm recording still operates but no entry is placed in the Alarm History and also no write protection of the footage is made.

In the **RESET SYSTEM** menu (page 48) the alarm history can be deleted in one operation.

Alarm Input Menu

```
          ALARM IN

TRIGGER ALARM RECORDING
AND/OR VIDEO SWITCHER
WHEN ALARM IN      REC  TRIG

1 > IGNORED
2  IGNORED
3  IGNORED
4  IGNORED
5  IGNORED
6  IGNORED
7  IGNORED
8  IGNORED
```

This is the “Alarm Input” menu, which governs the relay conditions for each of the alarm inputs. Alarm inputs 1 to 8 control cameras 1 to 8 respectively.

Each of the alarm inputs can be set to operate as follows:

- **IGNORED**
The alarm input is ignored
- **GOES CLOSED**
An alarm input trigger is generated on the instant that the alarm input goes closed. The post trigger record time governs the duration of recording.
- **CLOSED**
An alarm input trigger is maintained for the duration of the closed contact. Alarm recording operates throughout the closed state and for the post trigger time once the contact is opened.
- **GOES OPEN**
An alarm input trigger is generated on the instant that the alarm input goes open. The post trigger record time governs the duration of recording.
- **OPEN**
An alarm input trigger is maintained for the duration of the open contact. Alarm recording operates throughout the open state and for the post trigger time once the contact is closed.

Alarm connections - 15 way 'D' type connector.

Pins	1 - 8	Alarm inputs 1 - 8
Pins	11-13	Ground (connect alarm inputs to any of these for closed state)
Pins	9, 10	Relay output 1 (currently used as alarm out)
Pins	14, 15	Relay output 2 (currently unused)

Other Menu Page

```
          OTHER MENUS

> PASSWORD
  MONITOR
  DATE
  STATISTICS
  EXTERNAL HARD DISK
  ADVANCED
  RESET SYSTEM

EXIT
```

This is the “Other Menus” menu, from which further sub-menus can be reached. Here is a summary of the menu selections available:

- **PASSWORD** - Password protection setup (see page 34).
- **MONITOR** - Auto shutdown / colour and other features (see page 36).
- **DATE** - Change the system time and date (see page 39).
- **STATISTICS** - General recording statistics (see page 40).
- **EXTERNAL HARD DISK** - Archiving and dual rate recording (see page ?).
- **ADVANCED** - Advanced options (see page 46).
- **RESET SYSTEM** - Set unit to factory shipped state (see page 48).

Video Switcher Menu

```

          VIDEO SWITCHER
CAMERA  DWELL TIME (SECS)
1:      >2
2:      2
3:      2
4:      2
5:      SKIP
6:      SKIP
7:      SKIP
8:      SKIP
SHOW ALARMED CAMERAS: NO
EXIT
```

This is the “Video Switcher” menu controlling the automatic switching of cameras on the switcher output at the back of the unit and also when the unit is in AUTO mode.

The dwell time specifies the duration spent on a camera before switching to the next camera. Use the up / down buttons to choose the camera, and the right / left buttons to increase / decrease the dwell time. The dwell time for a camera can be set to **SKIP**, so the camera is ignored (this may be done if fewer than the maximum number of cameras are connected). A dwell time of 2, 5, 10, 20 or 30 seconds is selectable.

If **SHOW ALARMED CAMERAS: > YES** is selected then the video switcher ignores the timing entries in the above menu and instead displays the view of the alarmed camera. If more than one alarm inputs are active the lowest alarm number is used and this camera is displayed. Other parameters that affect the **SHOW ALARMED CAMERAS** feature is the post trigger time in the alarm recording menu (this extends the length of time the alarmed camera is displayed after the alarm). Also the alarm inputs need to be enabled in the alarm inputs menu. Note also that it is not necessary to enable the alarm recording to use **SHOW ALARMED CAMERAS**.

Alarm Output Menu

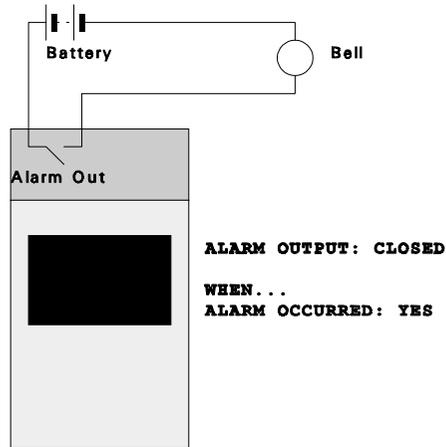
```

          ALARM OUTPUT
ALARM OUTPUT: >CLOSED
WHEN...
CAMERA DISCONNECTED: NO
ALARM INPUT CLOSED:
ALARM OCCURRED:      NO
                     YES
EXIT
```

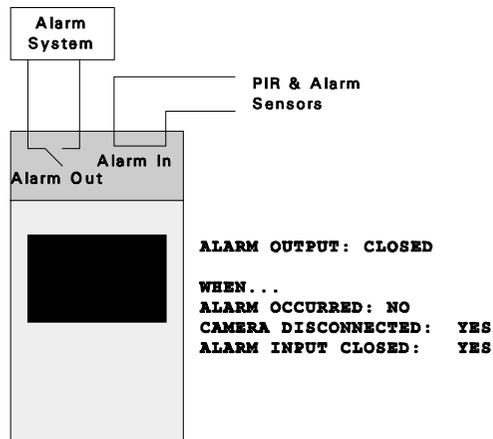
This is the “Alarm Output” menu, which controls the alarm output relay.

- **ALARM OUTPUT** - This can be set to:
 - **CLOSED** - The circuit across the Alarm Out terminals (see page 10) will be closed if any of the conditions set to **YES** on this menu occur, and open otherwise.
 - **OPEN** - The circuit across the Alarm Out terminals will be open if any of the conditions set to **YES** occur, and closed otherwise.The alarm input must be held active for a minimum of 1 second to ensure valid triggering. The alarm output is held active for a minimum of 5 seconds following any alarm condition. When the alarm is active a message is displayed on the main screen indicating the alarm source. Press any key to delete the message.
- **CAMERA DISCONNECTED** - If set to **YES**, the alarm output is activated when a camera is disconnected from the unit during recording. The unit has to be recording on a disconnected camera to generate this alarm. The OmniBase records a blank screen with a camera disconnected message into the footage so that on playback the user is reminded that the camera had been disconnected at the time specified. 5 seconds after the camera is reconnected the alarm will cease. The message still needs to be cleared by pressing any key.
- **ALARM INPUT CLOSED** - If set to **YES**, the alarm output is activated when the Alarm In terminals are active. Again the output is held active for a minimum period of 5 seconds.
- **ALARM OCCURRED** - If set to **YES**, the alarm output is activated if an alarm event (see page 24) has occurred. A battery and bell may be connected to the alarm out relay so the user is informed if any alarm has occurred when the OmniBase was not attended. The alarm condition is cleared when the user enters the alarm history menu to view the alarm history.

EXAMPLES

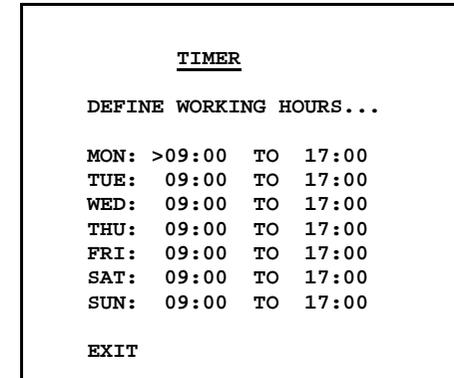


If an alarm event has occurred since the unit was last operated, the bell will ring continuously, until the user goes to the alarm history menu (automatically from the ALARM OCCURRED message).



If a camera is disconnected from the OmniBase or the sensors have detected motion, the external alarm system will be activated.

Timer Menu



This is the "Timer" menu, from which the period of timer recording can be set. It also can be used to enable / disable alarm recording.

Use the up / down buttons to choose a day, and the right / left buttons to switch between start and finish times. Enter a time using the numbered buttons - this will replace the previous time. To engage the timer, go to the "Timer Recording" menu.

You must use leading zeros for the time where necessary, e.g. 09:45.

To omit any day, leave both entries blank with NO numeric characters.